# Section 18 - West Colorado River Basin
# Industrial Water

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## West Colorado River Basin - Utah State Water Plan

# Industrial Water

### 18.1 Introduction

The generation of electrical power has become an important part of our society. The current uses of water for power production are large and may increase in the future. Other industrial uses include mining and manufacturing. It is important to have suitable water available for these and additional industries that may come into the basin.

This section of the *West Colorado River Basin Plan* presents data and information taken from several studies on municipal and industrial (M&I) water use. Current and projected industrial water use is presented for public water systems and private self-supplied industries.

**Self-supplied industries are among the major water users in Carbon and Emery counties.**

Hunter Power Plant in Emery County

### 18.2 Industrial Water Use [16]

Table 18-1 shows a breakdown of estimated industrial water uses in 1996, totaling about 36,300 acre-feet. This includes potable and non-potable water supplies.

Water planners and managers need to provide for the future construction of treatment and distribution facilities to accommodate any increases in industrial water demand.

Projected industrial water use data are presented in Table 18-2. In contrast to residential and commercial water users, which grow in proportion with population, future industrial use in this basin is difficult to predict. Industrial water use will increase to an estimated 42,000 acre-feet by the year 2020.

#### 18.2.1 Water Use By Major Industries

Utah Power is the major water user in the West Colorado River Basin with three coal-fired steam generation electrical power plants. The Carbon plant west of Price in Carbon County uses about 3,000 acre-feet of potable and non-potable water. This plant's water rights are diverse and include well sources and surface water from the Price River. Numerous agreements are in place with Helper city, Price City and the Price River Water Improvement

**Table 18-1**
**Industrial Water Use by County**

| County | Potable | Non-Potable (acre-feet) | Total Industrial |
|---|---|---|---|
| **Carbon** | | | |
| Self-Supplied Industries | 2,579 | 2,200 | 4,779 |
| Public Community Systems | 162 | 0 | 162 |
| **Emery** | | | |
| Self-Supplied Industries | 1,103 | 30,000 | 31,103 |
| Public Community Systems | 62 | 0 | 62 |
| **Wayne** | | | |
| Self-Supplied Industries | 0 | 0 | 0 |
| Public Community Systems | 133 | 0 | 133 |
| **Garfield** | | | |
| Self-Supplied Industries | 3 | 0 | 3 |
| Public Community Systems | 2 | 0 | 2 |
| **Kane** | | | |
| Self-Supplied Industries | 48 | 0 | 48 |
| Public Community Systems | 0 | 0 | 0 |
| **Totals** | 4,092 | 32,200 | 36,292 |

Source: Utah Division of Water Resources: M&I Water Supply Studies, West Colorado River Basin, 1998.

District for exchange of water supplies and use of each other's facilities. Some storage is provided in Scofield Reservoir

Utah Power and Light operates the Huntington and Hunter plants in Emery County. They use about 31,000 acre-feet of potable and non-potable water. The Huntington and Hunter plants have a water storage of about 84,000 acre-feet. About 54,000 acre-feet of water has been acquired from irrigation companies on Ferron, Cottonwood and Huntington creeks and includes about 8,600 acre-feet from the Joes Valley Project. The other 30,000 acre-foot supply was developed by Utah Power and Electric Lake Dam on Huntington Creek. These supplies provide holdover capability for use during extended drought cycles.

Sunnyside Cogeneration Associates in Carbon County uses about 800 acre-feet from Grassy Trail Reservoir at its coal-fire steam-generation electrical power plant in Sunnyside. Mining companies, including CO-Op Mining Co.; Genwal Resources, Inc.; Energy West; Canyon Fuel Co., Cypress Western Coal Co.; and White Oak Mining and Construction Co. in Carbon and Emery counties are other major water users. Total water use by these companies is about 1,000 acre-feet.

### 18.2.2 Non-Consumptive Industrial Water Use [31]

Hydroelectric power generation plants require operational hydraulic head and significant volumes of water. However, this is a non-consumptive use

| Table 18-2<br>Projected Industrial Water Use by County [a] | | |
|---|---|---|
| County | 1996 | 2020 |
| | (acre-feet) | |
| Carbon | 4,941 | 6,000 |
| Emery | 31,165 | 35,000 |
| Wayne | 133 | 200 |
| Garfield | 5 | 10 |
| Kane | 48 | 100 |
| Totals | 36,292 | 41,310 |

[a]Includes potable and non-potable water use.

and the water can be used downstream. The one hydroelectric power generation facility is a small plant above Boulder operated by GarKane Power Association, Inc. Table 18-3 lists potential hydroelectric sites within the basin. Another non-consumptive industrial water use is fish production. Wayne County has two state fish hatcheries (Loa and Bicknell) and one privately run trout farm (Loa). The state also has a fish hatchery located near Big Water in Kane County that is used in the Recovery Implementation Program (RIP) for the endangered Colorado River fish. All of these facilities need large quantities of water to operate efficiently.

## 18.3 Projected Industrial Water Development

Industrial requirements for water are not expected to increase significantly. The coal mining operations in Carbon and Emery counties have reserves for up to 30 years. The West Colorado River Basin has been identified as a major source of tar sand. If mining tar sands were to become economically feasible, large amounts of water would be necessary. With the creation of the new Grand Staircase-Escalante National Monument, it is doubtful that the Kaparowitz Plateau coal will ever be mined. It is anticipated that any increase in industrial water needs will be from light industries that will probably use culinary water from existing public water suppliers. ●

| Table 18-3<br>Potential Hydroelectric Sites | | | |
|---|---|---|---|
| County/<br>Reservoir Name | River | Potential Capacity (kw) | Owner |
| **Carbon** | | | |
| Scofield | Price | 1,347 | DOI USBR |
| Electric Lake | Huntington Creek | 868 | Utah Power |
| Joes Valley Res. | Seely Creek | 142 | DOI USBR |
| Millsite | Ferron Creek | 110 | Ferron Canal & Res. Co. |
| **Sevier** | | | |
| Johnson | Seven Mile Creek | 132 | Fremont Irrigation Co. |